

PLOTTER SOFTWARE.

COMPUTING & EDUCATIONAL SYSTEMS COMPANY

GAINS

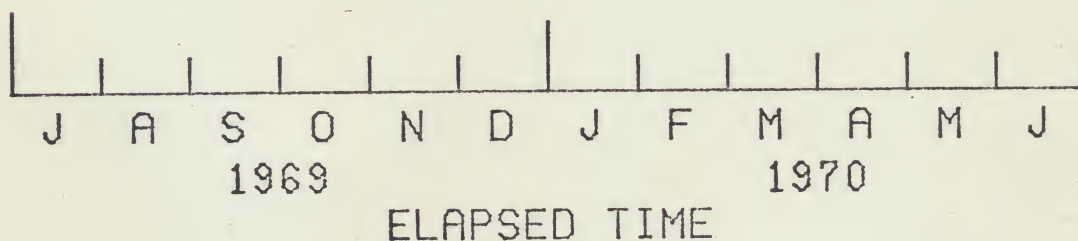
Computer controlled plotters produce high quality graphic work quickly and accurately. But data preparation for such work is, for the most part, still tedious, slow and error prone. GAINS (Graphic Administrative INformation System) solves the data preparation problem for a large family of plotting requirements.

GAINS is a sophisticated high level graphic language and language processor for coordinate graph plotting. Data preparation consists of writing commands in a free format, directive style. For example, the time axis of a plot, completely defined by

TIME-AXIS

TYPE = MONTH, LIMITS =
(1969/JUL, 1, 1970/JUNE),
CAPTION = ELAPSED TIME,
HEIGHT = 0.14.

will produce this plot.



Other axes include linear X, linear Y, log X, and log Y. Data for plotting may be input on cards or from a tape or disk file. The data may be presented as fitted curves, bar charts, histograms, or as connected raw data points. Up to six curves may appear on a given graph. Different left and right Y-axes may appear on the same graph with each curve assigned independently to one or the other Y-axis.

These and numerous other features of GAINS provide complete flexibility with a minimum of data preparation. The advantages of GAINS are detailed further in Attachment A, a description of the language; Attachment B, a set of examples; and Attachment C, the availability-pricing statement.

Look to Computing & Educational Systems Company for announcement of other computer graphics application programs.

ATTACHMENT A

GAINS LANGUAGE

The following is not an exhaustive language manual but is complete in itself. Options which are described in the complete user manual allow for greater flexibility with little added complexity.

Note: An option in a ☐ is the default option.

1. Initialization

BEGIN JOB NAME = 'up to 48 characters',
 ☐ PLOT
OPTION = NO ☐ PLOT.

2. Support Data

PLOT DATA TITLE = 'up to 210 characters',
 ☐ NO BORDER ☐ NO GRID
OPTION = (☐ BORDER , ☐ GRID) ,
 ☐ 0 , ☐ 0 .
TIME-AXIS ☐ MONTH
TYPE = QUARTER, LIMITS = (MIN Y/M/D,
 DAY
 YEAR
DELTA, MAX Y/M/D) , CAPTION =
'up to 42 characters', CAPT HEIGHT = ☐.14
inches.

Y-AXIS ☐ LINEAR ☐ LEFT
TYPE = (☐ LOG , ☐ RIGHT) ,
LIMITS = (MIN, DELTA, MAX) ,
CAPTION = 'up to 42 characters',
CAPT HEIGHT = ☐.14 inches.

X-AXIS Same as Y-AXIS without LEFT or RIGHT options.

3. Curve Data

CURVE SETNAME = 3 characters.

EXACT
TYPE = HISTOGRAM
 LEAST SQUARES (DEGREE = 1),

LEFT
Y-AXIS REF = RIGHT ,

CAPTION = 'up to 30 characters',

CAPT HEIGHT = .14 inches,

LINE = 1 (the type of line -- solid,
dot, dot - dash, etc.)

DATA SET NAME = 3 characters, XY = (X1,Y1/
 X2,Y2/X3,Y3/ --- /XN,YN).

 or

BEGIN DATA SET NAME 1 X11 , Y11
 X12 , Y12

 SET NAME 1 X1n , Y1n

 SET NAME 2 X21 , Y21

 SET NAME 2 X2m , Y2m

 etc.

 END DATA

 or

Tape or disk data set as required.,

4. Termination

END

ATTACHMENT B.

GAINS - EXAMPLES

Four examples follow. The GAINS language for Plot 1 is included. Plots 2 and 3 are photo reductions of 22" x 17" plots. Notice that Plot 3 is a least squares fit of a 2nd order curve.

GAINS - GRAPHIC LANGUAGE - PLOT 1

```
BEGIN      JOB NAME = 'EXAMPLE',
           OPTION  = PLOT.

PLOT DATA  TITLE  = 'A FREQUENCY POLYGON',
           TITLE  = 'FOR THE DISTRIBUTION OF SCORES IN
           THE INK BLOT TEST',
           OPTION  = (GRID),
           ORIGIN  = (0,0).

X-AXIS      LIMITS = (0,5,70),
           CAPTION = 'SCORES'.

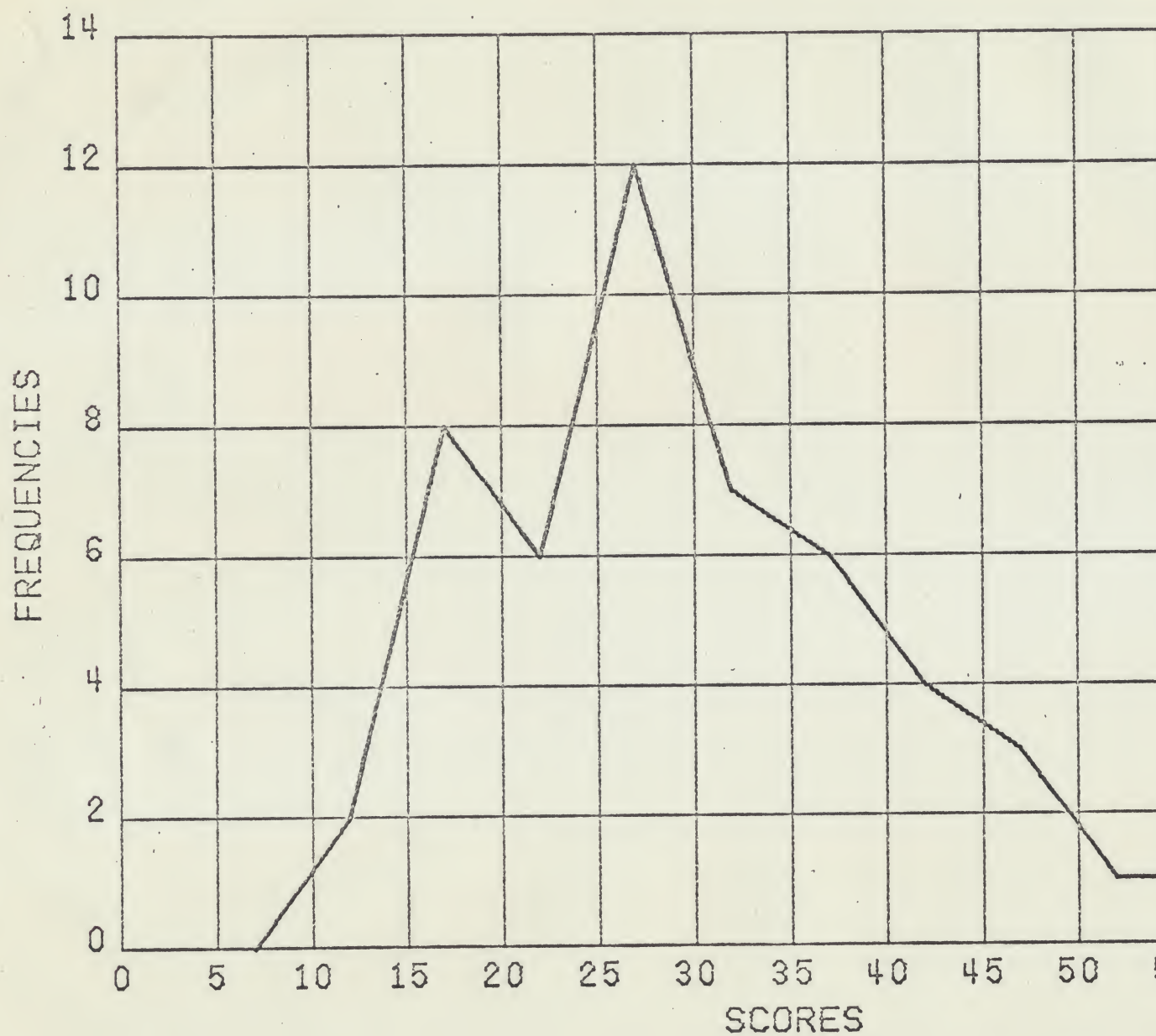
Y-AXIS      LIMITS = (0,2,14),
           CAPTION = 'FREQUENCIES'.

CURVE       SETNAME = DS1,
           TYPE  = EXACT.

DATA        SETNAME = DS1,
           XY    = (7,0/12,2/17,8/22,6/27,12/32,7/37,6/
           42,4/47,3/52,1/57,1/62,0).
```

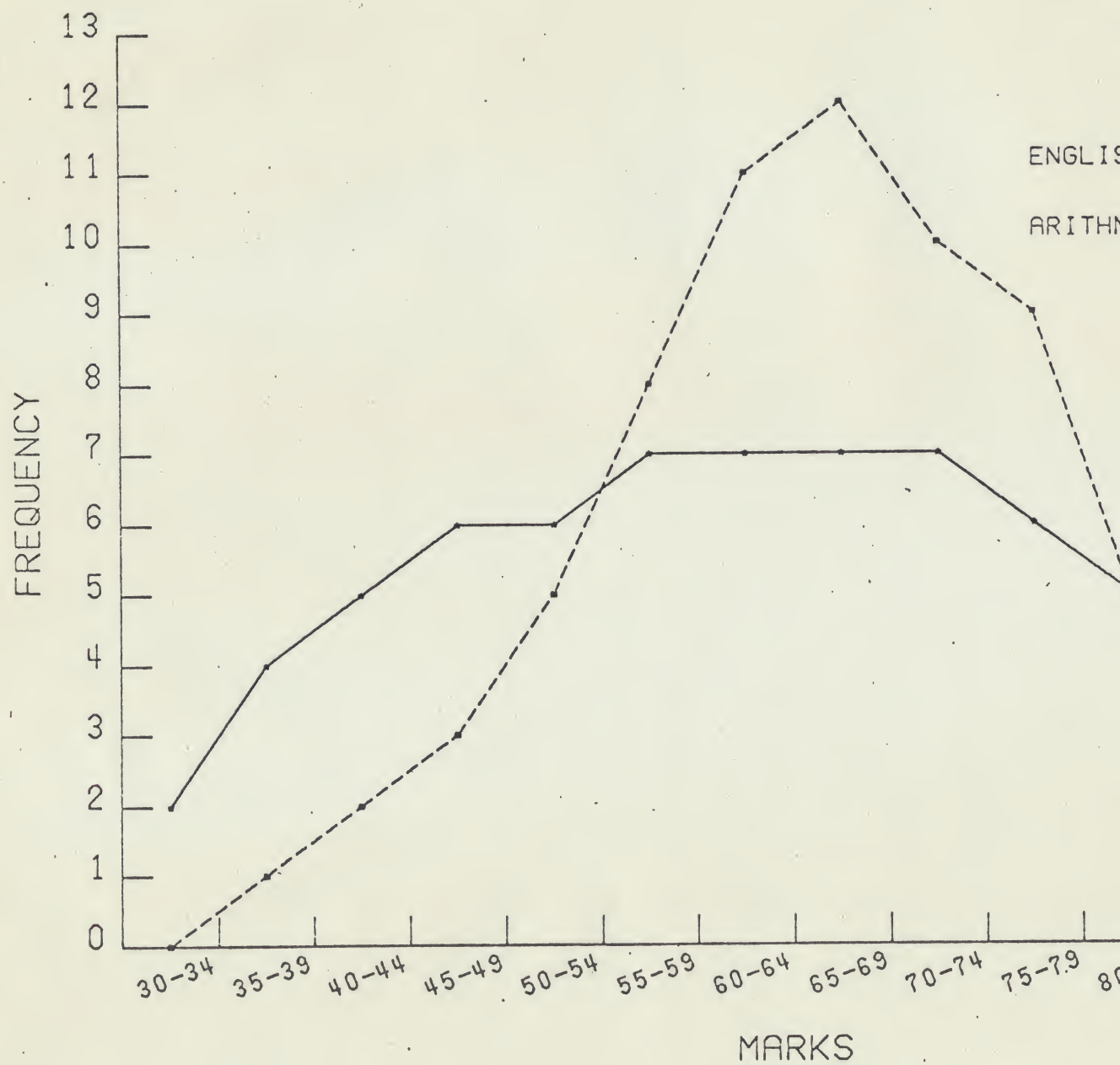
END.

A FREQUENCY POLYGON
FOR THE DISTRIBUTION OF SCORES IN THE INK



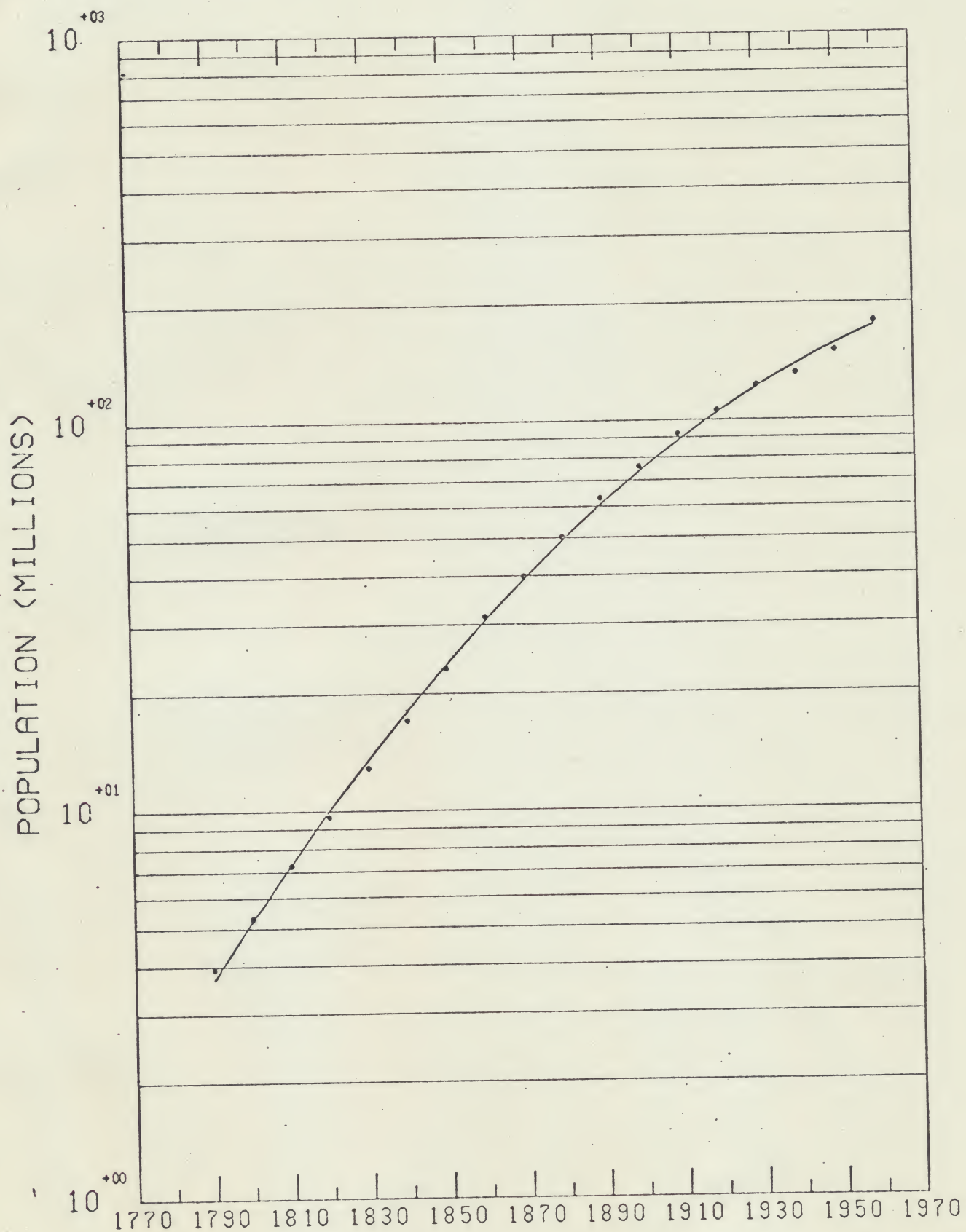
PLOT 1

STATISTICAL DISTRIBUTION OF GRA



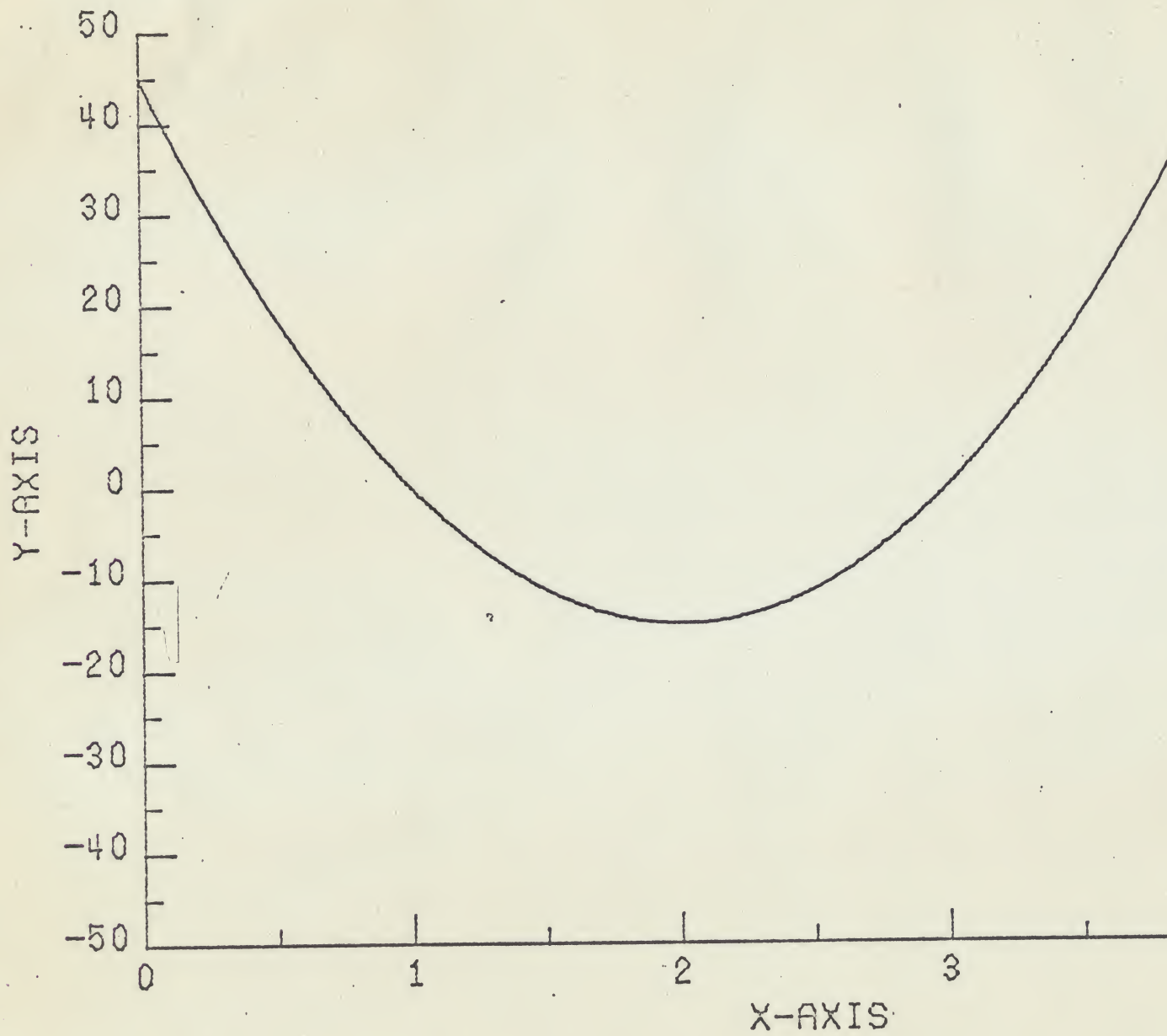
PLOT 2

POPULATION OF THE UNITED STATES, 1790-1960



PLOT 3

$$Y = 15X^2 - 60X + 45$$



PLOT 4

ATTACHMENT C

GAINS - AVAILABILITY AND PRICING

1. Single computer installation for in-house use:

Computer	IBM 360-30 (or greater), UNIVAC 1108
Plotter	CalComp (any off-line), Computer Industries
Monthly: Installation	\$ 1,000
Rental	\$ 500/month
Yearly: Installation	-0-
Rental	\$ 500/month first year \$ 400/month succeeding years
Available	June 1970

Computer	IBM 1130, IBM 1800, HP 2116	Any Computer
Plotter	CalComp (on or off-line)	Any Plotter
Monthly: Installation	\$ 1,000	Not available
Rental	\$ 500/month	" "
Yearly: Installation	-0-	Negotiable
Rental	\$ 500/month first year \$ 400/month succeeding years	"
Available	July 1970	60-90 days after order

2. UCC's Computing Utility in Dallas, Texas:

UCC charge + \$12.00 per minute of UNIVAC 1108 time.

Average plot cost:

UCC charge of \$6.50 + GAINS charge of \$3.00 = \$9.50.

Note: Computing & Educational Systems Company will handle a limited number of plots by mail for those interested in exercising GAINS through UCC at the above charge. This service is available beginning May 1970.

3. UCC Computing Utility in sites other than Dallas, Texas:

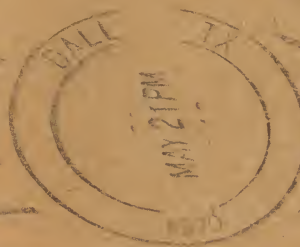
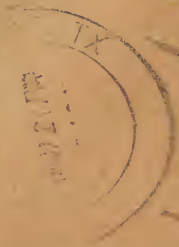
Service may be arranged with an initial installation fee and the same rate as item 2 above.

4. Multiple computer or multiple user installation:

GAINS is available to computer utilities and as support software to computer and plotter sales. Rates are negotiable.

5. Training in the use of GAINS:

\$200.00 per day plus travel.



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